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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/586,662	06/01/2000	Madhav V. Marathe	081862.P175	5975

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EXAMINER

FERRIS, DERRICK W

ART UNIT	PAPER NUMBER
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2663

DATE MAILED: 12/30/2003

9

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/586,662

Applicant(s)

MARATHE ET AL.

Examiner

Derrick W. Ferris

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 24 November 2003.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 2-13, 15-24, 26, 27 and 39-50 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 2-13, 15-24, 26, 27 and 39-50 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 24 November 2003 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. §§ 119 and 120

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.
- 13) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application) since a specific reference was included in the first sentence of the specification or in an Application Data Sheet. 37 CFR 1.78.
- a) ☐ The translation of the foreign language provisional application has been received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121 since a specific reference was included in the first sentence of the specification or in an Application Data Sheet. 37 CFR 1.78.

Attachment(s)

- 1) ☐ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449) Paper No(s) Z.
- 4) ☐ Interview Summary (PTO-413) Paper No(s). _____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____.

DETAILED ACTION

Response to Amendment

1. **Claims 2-13, 15-24, 26-27, 28-37 and 39-50** as amended are still in consideration for this application. Applicant has amended claims 2-4, 9, 13, 15, 24, 26-28, 33, 37, 39, 40, 41, 46 and 50. Applicant has canceled claims 1, 14, 25, and 38. It is unclear from applicant's remarks filed 11/24/03 whether claims 28-37 are currently pending (i.e., see page 13 "Status of Claims"). In good faith, the examiner assumes claims 28-37 are still pending as currently amended.
2. Examiner **withdraws** the objection(s) to the drawings for Office action filed **08/22/03**. Examiner thanks applicant for making the necessary corrections.
3. Examiner **withdraws** the anticipated rejection to *Hamami* for Office action filed 08/22/03. The rejection is withdrawn based on applicant's claims as necessitated by amendment.
4. Examiner **withdraws** the obviousness rejection *Rubino et al.* for Office action filed 08/22/03. The rejection is withdrawn based on applicant's claims as necessitated by amendment.
5. Examiner **withdraws** the obviousness rejection *Hamami* in view of *Phillips* for Office action filed 08/22/03. The rejection is withdrawn based on applicant's claims as necessitated by amendment.
6. Examiner does **not withdraw** the obviousness rejection to *Hamami* in view of *Rubino et al.* for Office action filed 08/22/03. In addressing applicant's arguments in the response filed 11/24/03, the examiner notes two items of issue: (1) the further underlined limitation "transmitting data along a first virtual circuit of a plurality of virtual circuits in a network and a plurality of detecting cells along said first virtual circuit, and a second virtual circuit of said plurality of virtual circuits" (or equivalent) and (2) motivation.

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In particular for issue (1) directed to all independent claims 4, 15, 28 and 41, *Hamami* discloses a method of VCC/VPC redundancy for ATM. Specifically, *Hamami* discloses using an OAM detection cell to switch from a primary connection to a second connection. *Hamami* is silent or deficient to said further underlined limitation. *Rubino et al.* ("*Rubino*") teaches said underlined limitation as part of a connectivity verification method (e.g., see column 6, line 58 – column 8, line 38). Specifically, one VCC is disclosed to transport OAM cells but the reference also teaches that more than one VC can be monitored such that the limitation is met (e.g., see column 14, lines 23-35). Thus *Rubino* teaches monitoring multiple PVCs (e.g., a first and a second virtual circuit) using the Data Path Control Logic 1014. Examiner would like to further point out that the relationship between a first and second virtual connection is not clearly recited in the claims such that the examiner assumes a reasonable but broad interpretation with respect to the second virtual circuit.

At second issue (2) is why one skilled in the art would be motivated to modify *Hamami* with the teachings of *Rubino*. In general, both references disclose network communications in general, and more specifically ATM. Even more specifically, both references disclose detecting cells in general and more specifically OAM cells. Thus there is a strong motivation to combine the teachings as a whole for both references. Finally, applicant argues it is improper to combine the two references since *Rubino* discloses the performing monitoring at the ATM router (e.g., see ATM router 102 in figure 4) while *Hamami* purportedly discloses monitoring at the end user system (e.g., see user #4 14 in figure 1). Examiner respectfully disagrees. It appears applicant overlooks that *Hamami* also teaches performing monitoring at an ATM switch as well (e.g., see figure 2) (i.e., *Hamami* discloses both end user and switch redundancy). Thus one would be

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motivated to apply the teachings of *Hamami* with respect to a switch since a switch routes ATM cells as taught by both references.

7. Examiner does **not withdraw** the obviousness rejection to *Hamami* in view of *Rubino et al.* and in further view of *Chen et al.* ("*Chen*") for Office action filed 08/22/03. Examiner notes the same reasoning applies in addressing the previous rejection.

Claim Rejections - 35 USC § 103

8. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

9. **Claims 3-4, 5, 7-9, 14-16, 18, 19, 24, 28, 29, 31-33, 37, 40, 41, 42, 44-46 and 50** are rejected under 35 U.S.C. 103(a) as being unpatentable over U.S. Patent No. 6,22,820 to *Hamami* in view U.S. Patent No. 6,424,629 to *Rubino et al.* ("*Rubino*").

As to **claim 4**, *Hamami* clearly discloses monitoring the primary VC [step 100 figure 7; column 9, lines 46-48] but is silent or deficient to monitoring the second or redundant connection (i.e., in reference to applicant's recitation of transmitting a plurality of detecting cells along a second virtual connection).

Examiner notes that it would have been obvious to someone skilled in the art to transmit a plurality of detecting cells on each virtual circuit. The motivation being that each virtual circuit or logical connection should be tested for a failure with respect to redundancy. As further motivation, *Rubino* discloses two ATM management functions, alarm surveillance and connectivity verification [column

5, lines 50-51], where connectivity verification (i.e., the management function that is relevant to the rejection [column 6, lines 59-column 8, line 38]) is performed on more than one PVC [column 3, lines 33-42]. As a result, one would be motivated to also monitor the secondary channel in case the secondary channel goes down and needs to switch back to the primary channel.

As to **claim 3**, *Hamami* discloses an ATM network [column 1, lines 10-17].

As to **claim 5**, both references discloses transmitting cells at a predetermined frequency [e.g., *Rubino* column 6, lines 63-64].

As to **claim 7**, both reference disclose detecting a “gap” when no OAM cells are received.

As to **claim 8**, *Rubino* discloses waiting for one or more OAM cells [column 7, lines 20-21, column 12, lines 40-54]. Thus examiner notes that it would have been obvious to look of any number of cells such as three or five OAM cells.

As to **claim 9**, see the rejection for claim 1.

As to **claim 13**, *Hamami* teaches using ATM cells to transport the data.

As to **claim 15**, in addition to the rejection for claim 1, a line card and gateway module may not be obvious from the teachings of *Hamami* (although examiner notes that *Hamami* does teach routing in general). Examiner notes that it a gateway module and line card would have been either inherent or obvious

given the combined rejections. As additional support, *Rubino* discloses routing at the edge. Thus *Rubino* also discloses a gateway module and line card.

As to **claim 16**, see the rejection for claim 5.

As to **claim 18**, see the rejection for claim 7.

As to **claim 19**, see the rejection for claim 8.

As to **claim 24**, see the rejection for claim 13.

As to **claim 27**, see the rejection for claim 3.

As to **claim 28**, see the rejection for claim 4.

As to **claim 29**, see the rejection for claim 5.

As to **claim 31**, see the rejection for claim 7.

As to **claim 32**, see the rejection for claim 8.

As to **claim 33**, see the rejection for claim 9.

As to **claim 37**, see the rejection for claim 13.

As to **claim 40**, see the rejection for claim 3.

As to **claim 41**, see the rejection for claim 4.

As to **claim 42**, see the rejection for claim 5.

As to **claim 44**, see the rejection for claim 7.

As to **claim 45**, see the rejection for claim 8.

As to **claim 46**, see the rejection for claim 9.

As to **claim 50** see the rejection for claim 13.

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10. **Claims 2, 26, and 39** are rejected under 35 U.S.C. 103(a) as being unpatentable over U.S. Patent No. 6,22,820 to *Hamami* in view U.S. Patent No. 6,424,629 to *Rubino et al.* ("*Rubino*") and in further view of "ATM/IP in the 21st Century" by *Phillips*.

As to **claim 2**, examiner notes although *Hamami* mentions other technologies [column 5, lines 21-22], *Hamami* is silent or deficient to mentioning IP in particular (i.e., except at column 4, line 63). *Rubino* mentions IP [e.g., see column 14, lines 52-60]. Examiner notes that it would have been obvious to a skilled artisan prior to applicant's invention to combine IP and ATM (e.g., run IP over ATM). As further support *Phillips* discloses the integration of IP and ATM as well as running IP over ATM [see at least bottom on page 3]. Thus *Phillips* provides motivation.

As to **claim 26**, see the rejection for claim 2.

As to **claim 39**, see the rejection for claim 2.

11. **Claims 6, 10-12, 17, 20-23, 30, 34-36, 43, and 47-49** are rejected under 35 U.S.C. 103(a) as being unpatentable over U.S. Patent No. 6,22,820 to *Hamami* in view U.S. Patent No. 6,424,629 to *Rubino et al.* ("*Rubino*") in further view of "Monitoring and Control of ATM Networks Using Special Cells" to *Chen et al.* ("*Chen*").

As to **claim 6**, both references disclose using F5 OAM cells, however, it may not be clear that the correlation tag has an incrementing sequence number. For example, *Rubino* discloses that the correlation tag is set to an identifiable value that is included by remote ATM router 108 but is not clear on exactly what the value is other than the value is used for correlation [column 7, lines 47-53].

Examiner notes that it would have been obvious to someone skilled in the art prior to applicant's invention to include a sequence number as the value.

Examiner notes a motivation is that a sequence number provides a correlation used to help detect cell loss. As additional support, *Chen* discloses a sequence number in general for a test cell in figure 1 on page 30 where the sequence number is used to detect test cell loss or misinsertion. Thus *Chen* provides a motivation for including a sequence number as part of a value for the correlation for a test cell in general where a test cell is an OAM cell.

As to **claims 10 and 11**, see the rejection for claim 6 where it also would have been obvious to check the sequence number of an OAM cell to detect a failure. The motivation that OAM cells out of order will signify that an OAM cell was lost which constitutes a failure as is known in the art. In addition, *Rubino* discloses switching the backup (i.e., second connection) if cells are detected on a first or primary connection (i.e., in reference to applicant's block 550 in figure 5). Examiner notes that it also would have been obvious to someone skilled in the art to also maintain the connection. One motivation for maintaining the rejection would be to reduce the complexity of the system.

As to **claim 12**, see the rejection for claim 8.

As to **claim 17**, see the rejection for claim 6.

As to **claim 20**, see the rejection for claim 10.

As to **claim 21**, see the rejection for claim 10.

As to **claim 22**, see the rejection for claim 11.

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As to **claim 23**, see the rejection for claim 12.

As to **claim 30**, see the rejection for claim 6.

As to **claim 34**, see the rejection for claim 10.

As to **claim 35**, see the rejection for claim 11.

As to **claim 36**, see the rejection for claim 12.

As to **claim 43**, see the rejection for claim 6.

As to **claim 47**, see the rejection for claim 10.

As to **claim 48**, see the rejection for claim 11.

As to **claim 49** see the rejection for claim 12.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Derrick W. Ferris whose telephone number is (703) 305-4225.

The examiner can normally be reached on M-F 9 A.M. - 4:30 P.M. E.S.T.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Chau Nguyen can be reached on (703) 308-5340. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 305-3900.

DWF



Derrick W. Ferris
Examiner
Art Unit 2663
KWANG BIN YAO
PRIMARY EXAMINER

